Fugro: Innovative Tooling

Simon Marr, Sales & Marketing Manager, Remote Systems Technology
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• Fugro’s Innovative Tooling business

• Supporting Dive Efficiency through Multi-Functional Tooling
  • “impROViser”
  • Fluid Sampling Skid
  • Multiple Seismic Node Deployment System

• Questions
Fugro’s Tooling Business

- Founded in 2002
- Subsea ROV & Intervention Tooling Solutions Provider
- ISO 9001:2015 Accredited
- Approximately 70 People Globally
- Locations
  - Aberdeen
  - Perth
  - Houston
  - Rio das Ostras
  - Singapore
- Remote Systems Technology Service Line
**Benefits**

- Better Alignment with customer project lifecycles
- Transitioning from OpCo structure to matrixed structure to improve client focus, delivery excellence and innovation
- RST designed as a global service line to drive global client development, innovation, standardisation and efficiencies

RST comprises Tooling, ROVs, Handling and Deployment Systems and associated R&D
Benefits - Aftermarket Services

• Access to wider tooling pool across other Subsea OpCos.

• Access to more ROV / tooling technicians to support aftermarket activities.

• Better in-country integration across related service lines.
Supporting Dive Efficiency through Multi-Functional Tooling
Proving ROV interfaces: Design Validation before Manufacture

Engineering Design
- hydraulic, electrical circuits
- piping and wiring diagrams
- Solidworks 3D
- Finite Element Analysis

Deployment Simulation
- Rapid prototyping concepts
- Accurate behaviours
- Environmental realism
- Design out unwanted clashes & accessibility issues.
Proving ROV interfaces: Modular SIT Support

- Mock ROV to support SIT on tree and manifold tooling interfaces

- 70l/min Hydraulic Power Unit
- Controls to replicate telemetry, cameras, lights, manipulators and tooling
- 16 station value pack plus intelligent valve pack for SIT of different tooling and skid packages
- Multiplex fibre control
Breakthrough product first to market
Innovative torque multiplier bypass to provide selective gearing for full class 1 – 4 torque range
Self-adjusting nose for compatibility between classes
Reduces need for change outs and redeployments
More than 150 units in the field
Proven reliability and durability
Diver or ROV deployed. Often supplied with Flying Lead Orientation Tool
Can be controlled from the surface
Accurate turns count
Intermediate Skid provides failsafe barrier against leakage of well bore fluids during emergency disconnect.
Efficient by Design: Multiple Seismic Node Deployment

- Seabed Geosolutions: Case Abyss Nodes
- New rear mounted handling system preserves full frontal work capability and allows ‘in-flight’ capture and carry 3-Nodes on each of 2 ROV in a single operation from / to a Node Transfer Basket
- FIMPty: Docking Skid Frame, Probe and Receptacle
- FIMPL: Node Latching Arrangement including Outriggers, Node Grabs as well as Hydrophone Grabs
Questions?

Thank You

simon.marr@fugro.com